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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SEFCHECK, GREGORY B	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/779,381	PARRUCK ET AL.	
	Examiner	Art Unit	
	Gregory B. Sefcheck	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment comprising Remarks/Arguments filed 4/1/2005 is acknowledged.
- The amended title is acceptable. The previous objection is withdrawn.
- Claims 1-7 and 21 remain pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (US006535513B1), hereafter Kao, in view of Zheng et al. (US006611522B1), hereafter Zheng.

- In regards to Claims 1 and 5-7,

Kao discloses a multimedia and multirate switching apparatus (Title).

Referring to Fig. 2, Kao discloses a line card 202 in the switching apparatus (router) coupled through a first interface to an ATM (cell) or IP (packet) network. Received data is supplied to local switch module 206 (second interface) that is coupled to a cell switching fabric 208 (claim 1,6,7 – first interface coupled to either a cell or packet network; claim 1,6,7 – second interface coupled to switch fabric of router).

Kao discloses a multitude of configurations for interfacing network of varying speeds and media types (Abstract; Col. 1, lines 55-63) whereby data, i.e. ATM (cell) or IP (packet) data, is received on the first interface and converted to ATM cells for output on the second interface to the switch fabric 208 (Abstract; claim 1,6 – first configuration receives data in cell format on first interface and passes through the IC for output in cell format via the second interface; claim 1,6 – second configuration receives data in packet format on first interface and passes through the IC for output in cell format via the second interface).

Kao shows that ATM switching is then performed among the line cards interfaced to the switch fabric. The switched cells are received at the destination line card from the switch fabric on the second interface, converted to the outgoing media type (i.e. remaining ATM or converted back to IP) and outputted on the first interface to the ATM (cell) or IP (packet) network (Abstract; Col. 3-4, lines 60-11; Table 1; claim 1,7 – third configuration receives data in cell format on second interface and passes through the IC for output in cell format via the first interface; claim 1,7 – fourth configuration receives data in cell format on second interface and passes through the IC for output in packet format via the first interface).

Kao does not explicitly disclose the implementation of the line card switching apparatus on an integrated circuit capable of handling multiple data flows received on one wavelength band in a fiber optic cable.

Zheng discloses a quality of service facility in a device for performing IP forwarding and ATM switching (Title). Referring to Figs. 3 and 4, Zheng discloses such

a device in the form of application specific integrated circuits on line cards that receive multiple flows of cell and packet data in the same wavelength band on a fiber optic cable (Col. 10-1, lines 10-55; claim 1,6,7 – integrated circuit on a line card in a router; claim 5 – first flow of cell format data and second flow of packet format data are received onto the line card via one wavelength band in a fiber optic cable; claim 5 – IC in the first configuration for first flow and second configuration for second flow).

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the apparatus of Kao for implementation through an integrated circuit for receiving multiple flows of cell and packet data in the same wavelength band on a fiber optic cable. Implementation on an integrated circuit would provide efficient input and output processing of multiple flows over the same wavelength band in a fiber optic cable to the apparatus of Kao for exchanging such data flows among various network types.

- In regards to Claim 2,

Kao discloses a multimedia and multirate switching apparatus that covers all limitations of the parent claim.

Kao discloses cell data in the format of ATM data, which consists of fixed sized cells, and packet data in the format of IP packets, which may vary in size (Abstract; claim 2 – cell format represents data contained within cells of a fixed size; claim 2 – packet format represents data contained within variable size packets).

- In regards to Claims 3 and 4,

Kao discloses a multimedia and multirate switching apparatus that covers all limitations of the parent claim.

Kao discloses a switching apparatus for redirecting ATM and IP data between networks (Abstract; Col. 2, lines 60-64; claim 3 – router is one of an ATM switch that redirects ATM cells from one network to another network; claim 4 – router is an IP router that redirects IP packets from one network to another network).

- In regards to Claim 21,

Kao discloses a multimedia and multirate switching apparatus that covers all limitations of the parent claim.

Referring to Figs. 4 and 5, Kao discloses maintaining a FIFO queue and for each data path (Col. 5, lines 10-20), and control for scheduling of data transfers from the queue in the egress and ingress modules of the local switching module 206 (Col. 7-9, lines 63-54; claim 21 – IC comprises per flow queue, a scheduler, and a memory manager).

Response to Arguments

3. Applicant's arguments filed 4/1/2005 have been fully considered but they are not persuasive.

- In the Remarks on pg. 4 of the Amendment, the Applicant contends that Kao does not show any interfaces on the line cards 202 and 204. Furthermore, the Applicant contends Kao fails to disclose a line card interface couplable to either a cell network or a packet network.
- The Examiner respectfully disagrees. Fig. 2 of Kao shows that line cards 202 and 204 may be configured to interface both IP and ATM networks. In the detailed illustration of Fig. 6, Kao shows separate elements for handling data from the respective networks, but it is the opinion of the Examiner that they share a common interface of the line card, through PCI bus 616, as recited in claims 1, 6, and 7. Therefore, Kao discloses a line card interface that can be connected to either a cell network or a packet network.

- In the Remarks on pgs. 4-5 of the Amendment, the Applicant contends that the motivation to combine Kao with Zheng is improper.
- The Examiner respectfully disagrees. The motivation to implement the switching apparatus of Kao as an integrated circuit is provided in columns 10-11, lines 10-55, in Zheng. Furthermore, it is common in the art to implement a switching device as an integrated circuit. Zheng is merely

one illustrative example of such an implementation to be combined with Kao because of Zheng's processing of ATM and IP data.

Conclusion

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GBS
5-27-2005

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